

Amendments to the Drawings:

The attached replacement drawing sheet makes changes to Fig. 1 and replaces the original sheet with Fig. 1.

Attachment: Replacement Sheet

REMARKS

Claims 1 and 6-16 are pending in this application. By this Amendment, claims 1, 6-8, 10, 14 and 16 are amended. Claims 2-5 are canceled without prejudice to, or disclaimer of, the subject matter therein.

In section 1 on page 2, the Office Action objects to the drawings. Attached is a Replacement Sheet with a replacement for Fig. 1 deleting reference character 41. Therefore, it is respectfully requested that the objection to the drawings be withdrawn.

In section 2 on pages 2-3, the Office Action objects to claim 16. Claim 16 is amended according to the suggestion in the Office Action. Therefore, it is respectfully requested that the objection to claim 16 be withdrawn.

In sections 3-5 on pages 3-5, the Office Action rejects claims 1 and 2 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,095,243 to Kinoshita et al. (hereinafter "Kinoshita") in view of U.S. Patent No. 5,045,696 to Hirose and JP 01-134300 to Aoki et al. (hereinafter "Aoki"). In section 6 on page 5, claim 3 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kinoshita in view of Hirose and Aoki and further in view of U.S. Patent No. 5,199,057 to Tamura et al. (hereinafter "Tamura"). In section 7 on pages 5-6, the Office Action rejects claim 4 under 35 U.S.C. §103(a) as being unpatentable over Kinoshita in view of Hirose and Aoki and further in view of WO 2001/03256 to Christiansen et al. (hereinafter "Christiansen"). These rejections are respectfully traversed.

Claim 1 is amended to incorporate the subject matter previously recited in claim 5. Claims 2-5 are canceled without prejudice to, or disclaimer of, the subject matter therein. None of the foregoing rejections were applied to claim 5.

For at least the foregoing reasons, it is respectfully requested that the rejection of claims 1-4 in sections 3-7 on pages 3-6 be withdrawn.

In sections 8-13 on pages 6-9, the Office Action rejects claims 5-9, 14 and 15 under 35 U.S.C. §103(a) as being unpatentable over Kinoshita, in view of Hirose and Aoki and further in view of U.S. Patent No. 5,533,083 to Nagai et al. (hereinafter "Nagai"). In sections 14-16 on pages 9-10, the Office Action rejects claims 10-12 under 35 U.S.C. §103(a) as being unpatentable over Kinoshita in view of Hirose, Aoki and Nagai and further in view of U.S. Patent No. 5,569,916 to Tomie. In section 17 on pages 10-11, the Office Action rejects claim 13 under 35 U.S.C. §103(a) as being unpatentable over Kinoshita in view of Hirose, Aoki, Nagai and Tomie, and further in view of Tamura. In section 18 on page 12, the Office Action rejects claim 16 under 35 U.S.C. §103(a) as being unpatentable over Kinoshita in view of Hirose, Aoki, Nagai and further in view of Tamura. These rejections are respectfully traversed.

Claim 1 is amended so that the limitations recited in claim 5 are incorporated into claim 1, and the magnetic lens is further limited to include a first magnetic lens as an object lens and a second magnetic lens as a projection lens. The amendment of the magnetic lens is supported by the description at lines 4 to 10 of page 9 in the specification.

Kinoshita and Aoki are completely different from Hirose in terms of a principle of forming an image. In Kinoshita and Aoki, an X-ray image is focused on a photocathode so as to generate electrons by X-ray, and electrons thus generated are enlarged to be focused. On the other hand, in Hirose, an electromagnetic coil (5) produces a divergent magnetic field to divergently enlarge photoelectrons emitted from a photocathode (3b) due to an irradiation of X-ray so that an electron image is formed. Accordingly, it is technically unreasonable to combine Hirose with Kinoshita and/or Aoki in order to arrive at the claimed subject matter.

As mentioned above, in Kinoshita and Aoki, an X-ray image is focused on a photocathode. In other words, a specimen is positioned ahead of the photocathode, as shown in Fig. 3 of Kinoshita and Fig. 1 of Aoki. On the other hand, in the subject matter recited in the rejected claims, a specimen is held on a photocathode so that a compact apparatus can be

realized by deleting an X-ray optical component (such as an X-ray magnification imaging means 14 shown in Fig. 3 of Kinoshita) which is inevitable in Kinoshita and Aoki.

Moreover, regarding a resolution of an image, in Kinoshita and Aoki an aberration of a magnetic lens is combined with an aberration of an X-ray optical component. An aberration of an X-ray optical component is generally larger than that of a magnetic lens so that an aberration of a whole system is mainly determined by an aberration of an X-ray optical component. Then, the claimed subject matter which can delete an X-ray optical component is advantageous in terms of a resolution of an image in comparison to Kinoshita and Aoki in which an additional X-ray optical component is inevitably needed.

In Hirose, a specimen (2) is held on the outer surface of a support layer (3a) of a specimen holder (3), and a photocathode (3b) is fixed to the inner surface of the support layer (3a), as described at lines 8 to 13 of col. 4 thereof. However, the electron image enlarging device recited in the rejected claims is different from that of Hirose. Namely, the electromagnetic coil (5) of Hirose produces a divergent magnetic field which divergently enlarges photoelectrons emitted from the photocathode (3b) as mentioned above. On the other hand, the magnetic lens of the electron image enlarging device recited in the rejected claims focuses electrons emitted by the photocathode to form an image.

Moreover, if an acceleration electrode is added to the constitution described in Hirose to accelerate electrons, a quality of an image will be deteriorated because an image is blurred as the energy of electron increases, as described in Nature Vol. 290, April 1981, pp. 556-559, quoted in Hirose. Accordingly, it is technically unreasonable to combine Hirose with Kinoshita and/or Aoki to arrive at the subject matter recited in the rejected claims.

Claims 6-16 are allowable based at least on their dependence from claim 1 for the reasons stated above in connection with the rejection of claim 5, the subject matter of which is now incorporated into claim 1.

Nagai, Tomie and Tamura fail to overcome the deficiencies in Kinoshita, Hirose and Aoki described above.

For at least the foregoing reasons, it is respectfully requested that the rejections of claims 5-16 specified in sections 8-18 on pages 6-12 of the Office Action be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1 and 6-16 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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